

FLIGHT SURGEON'S



NEWSLETTER

The purpose of this publication is to provide communication within the Naval Aviation Medicine community. Material published is for the information of Navy Flight Surgeons only and does not necessarily imply any official endorsement by the Navy.


JANUARY 1971

This issue revives the dormant Flight Surgeon's Newsletter. The last previous issue was published about fourteen months ago. After that it was absorbed into the Bioenvironmental Safety Newsletter. I feel that our own Newsletter better serves our special purpose, and so now we have gone back into business, but without any intention of competing with the Safety Center publication. The Flight Surgeon's Newsletter will be published on a quarterly basis. Its purpose will be to pass on and exchange information pertaining to Aviation Medicine. It will not ordinarily be used for exchanges of greetings, routine personal experiences, or job descriptions. We will avoid items of limited use, or of little general interest.

Support from the field will be essential for the continuing success of this venture. All flight surgeons are invited to submit articles for publication. Suggestions as to content and questions relating to Aviation Medicine policy will be welcome.

We are indebted to Captain Henry S. Trostle, MC, USN, who will edit the Newsletter, and to Mr. Kenneth W. Chandler, Head of the Printing Branch, Bureau of Medicine and Surgery, for his cooperation.

Let's make it fly.


L. P. JAHNKE
Captain, MC, USN
Assistant Chief for
Aerospace Medicine

MAJOR POLICY CHANGE

The fifty per cent Squadron Time Concept was published about a dozen years ago. At that time it served a useful and necessary purpose which since then has been accepted as a standard working policy, respected, and in many cases expected, by most line and medical officers. The intent of this concept, which was to enhance the flight surgeon's ability to carry out his mission and his responsibility to his assigned squadron, was excellent. Gradually, abuses of varying degrees have eroded its effectiveness, as well as respect for its integrity. The style of daily life in the squadron has further changed, especially in the shore based squadron. The era of the flight surgeon's ready room consultations over an acey-ducey board and a cup of coffee has to a large degree passed.

The concept that the flight surgeon must spend time in the squadron spaces is basic and must not be changed. "Squadron Time" is essential to every flight surgeon if he is to carry out his primary responsibility for the well being of his men, and the safety of their equipment and their machines. Routinely, these objectives can be attained in less than fifty per cent of the available working time, although it is recognized some exceptions do exist.

The fifty per cent Squadron Time Concept will no longer be used as a basic policy. Both COMNAVAIRPAC and COMNAVAILANT have agreed that the fifty per cent figure is not realistic and that the policy should be re-phased to conform with our present day situation. Each situation will require its own evaluation with a reasonable clinical/operational division of the flight surgeon's time being determined at the local level. Senior flight surgeons should bear in mind that the primary responsibility of the operational flight surgeon is to his squadron, and that allocation of squadron time should be realistic. The flight surgeon should also remember that he is a physician who is expected to function as a member of the professional staff to help carry out the total local medical requirements.
(BUMED Code 5)

AEROSPACE MEDICAL ASSOCIATION CONVENTION

It's not too early to make plans for attending the 42nd Annual Aerospace Medical Association Meeting in Houston, Texas from April 26-29, 1971. The Shamrock Hilton Hotel will be the convention headquarters. Captain Ralph L. Christy, Jr., MC, USN, President of the Association, has announced that the Program Committee Chairman, Captain Frank H. Austin, MC, USN, has arranged an outstanding program of panels and papers.

The uniform for naval personnel attending the daily meetings will be service dress khaki, and dinner dress with white jacket for the Honors Night banquet.

NEW OPPORTUNITIES IN AEROSPACE MEDICINE

The Bureau of Medicine and Surgery has approval to nominate approximately 50 former Flight Surgeons who are occupying hospital, clinical or training billets for duty involving flying (DIFOT) status. The program will be divided into three categories.

I. One former Flight Surgeon assigned to each of several large naval hospitals near a naval aviation activity in a specialty related to Aerospace Medicine may be placed on DIFOT. He will be the advisor to the commanding officer on aerospace medical matters, staff consultant for aviation designated patients, and will conduct aviation physical examinations when required. The DIFOT designation remains at the hospital and does not move with the incumbent.

II. Each year a limited number of carefully chosen career oriented Flight Surgeons who have been selected for clinical residency training will be nominated for DIFOT. They will assume no aerospace duties other than those required to fulfill their minimum flight time requirements. These residents will be considered as members of aerospace medicine and upon completion of their training will be assigned by that organization. Assignments will be projected toward career patterns including the practice of a chosen specialty at an air station hospital, followed by a tour of duty in a major hospital. As the need arises, a tour of sea duty would become a likely possibility as Senior Medical Officer of a carrier. Subsequent duty assignment at an air station hospital as executive officer or commanding officer can be envisioned. As leadership and administration capabilities become apparent, certain individuals would enter into competition for elevation to major commands. No additional duty obligation will be incurred by accepting the DIFOT orders.

III. Up to five Flight Surgeons each year will be placed in hospitals near major naval aviation activities for a one-year clinical refresher in a DIFOT status. These Flight Surgeons, preferably in the grade of Lieutenant Commander or Commander, will assume no aviation medicine duties except to fulfill their minimum flight time requirements. They will establish their own curriculums with the assistance and approval of a senior hospital staff officer. Upon completion of the refresher training, they will normally be assigned to the nearby aviation activity, avoiding a household move.

Flight Surgeons and former Flight Surgeons who are interested in any of the three parts of this program should make their desires known by letter to Captain R. C. McDonough, MC, USN, Bureau of Medicine and Surgery (Code 51), Navy Department, Washington, D.C. 20390. Further information will be disseminated as appropriate. (BUMED Code 51)

DIABETES AND NAVAL AVIATION

Numerous inquiries have been received by the Aviation Qualifications Branch of BUMED (Code 511) regarding its policy concerning the diabetic members of the aviation community. The general medical policy for recommendation of flight status for diabetic designated aviator and naval flight officers takes into consideration various factors, such as age, type of aircraft flown, accrued flight experience, date of aviator designation, complications of diabetes present, if any, and presence of unrelated disease, if any. Each case is considered on an individual basis by the Advisory Council for Aerospace Medicine.

This Council has in the past and currently qualifies designated aviators for service group III, for six to 12 months, provided they have had a complete internal medicine work-up, including a glucose tolerance test, that their diabetes is uncomplicated, and further provided that they are diet controlled. Following adequate observation (six to twelve months) during which time they are well controlled by diet, they may be returned to service group I with the recommendation that at the time of each annual examination an interval history, internal medicine consultation and glucose tolerance test be forwarded to this Bureau with the Standard Form 88 for review. Naval flight officers, aircontrolmen and crewmembers who fall within the adult onset diet controlled diabetes category should be monitored and evaluated likewise and may be qualified for flying.

The general policy regarding aviators and naval flight officers who require hypoglycemic drugs for control of diabetes mellitus is to remove them from flight status. Those aviators who are in category II or III, or qualify for NIACA are placed in NIACA while requiring hypoglycemic drugs for diabetic control. Naval flight officers and other class II personnel whose health would not be adversely affected by flying and who have been designated and on flight orders for 15 years, are allowed to continue flying in operational and administrative flights only while taking hypoglycemic agents for control of their diabetes. (MANMED 15-60(1))
(BUMED Code 511)

ATTENTION ALL READERS AND POTENTIAL READERS

One of the great problems involved with the publication of the Flight Surgeon's Newsletter involves its distribution. The FSN will be mailed direct to all flight surgeons on active duty only. It is anticipated that some addresses may be incorrect, or in some cases, some names may be omitted. Any flight surgeon who has not received a copy of this publication and is obviously reading a friend's copy, or who has received, via a circuitous route his copy, is invited to submit a current address to the Bureau of Medicine and Surgery, Code 514, Navy Department, Washington, D.C. 20390. A prompt correction will be made.

AID IN REDUCING PERIOD OF GROUNDING

If an aviator, who has been put in a restricted flight status by letter from BUPERS or CMC, is found by his flight surgeon to be clearly qualified to assume flight status, his commanding officer may waive this restriction after consideration of the flight surgeon's recommendation. It is strongly recommended that all flight surgeons familiarize themselves with sub-article 15-60(6) of the Manual of the Medical Department, which states this policy, and make use of it whenever appropriate.

This sub-article was placed in the Manual of the Medical Department for use by Naval flight surgeons and commanding officers to shorten the delay in returning aviators in a grounded or restricted flight status to duty involving actual control of aircraft in an appropriate service group pending final recommendation by BUMED and approval by BUPERS or CMC as applicable. From telephone inquiries and individual cases received by the Aviation Qualifications Branch of BUMED (Code 511), it appears that this sub-article is overlooked. BUMED need not be advised of this local action prior to submission of the medical reports and SF 88's; however, these reports should be submitted without delay. (BUMED Code 511)

ARE YOU READY?

When was the last time you had an emergency on the field? Do all the men know their assignments on the crash bill? What is your assignment? Is the ambulance ready to roll now? When was the last time its radio was checked? When was the last time the ambulance medical equipment was inventoried? Where is the Duty Flight Surgeon? Where is the flight surgeon's crash bag? When was its contents last inventoried? Does the Duty Flight Surgeon know the contents of the bag? Are there any narcotics in the bag? How are they safeguarded? Are you ready now for a crash involving two, five, ten or maybe twenty fatalities? Think about it now, the alarm may go off right now. Are you ready to carry out your mission? Think about it, preplanning and rehearsals produce a much smoother operation. Think about it - are you ready? (BUMED Code 523)

FLIGHT SURGEON SWIMMING AND WATER SURVIVAL TRAINING



Jean Pierre Boisivon
LT MC French Navy
SFS Class 124

- NEXT ONE ...

A REMINDER FOR MILITARY FLIGHT SURGEONS

It has long been the policy of the FAA to authorize Military Flight Surgeons to issue Second and Third Class FAA medical certificates. Such examinations are conducted as a courtesy to military personnel and/or their dependents. This accommodation may be particularly helpful to the applicant as the examinations may be completed on posts and stations in the United States and foreign areas as well. The agency is especially appreciative of the Assistance rendered by our military colleagues.

It has recently been reported by several GADOs, however, that some student airman applicants are appearing at their offices with a properly completed document for medical certification--but of obsolete vintage. For several years the Student Pilot application has been combined with the medical certificate application. This dual-purpose form is currently in use and is the standard FAA Form 8500-8. Since the airman's certificate proper is a part of the application, it is important that this form be used for all student applicants. It appears that a few military flight surgeons have not stocked the new form and are still using the previous edition. This creates much duplication in handling and in attempting to marry the non-standard medical application with an airman certificate at the Oklahoma City Certification Branch.

All Military Flight Surgeons are requested to obtain supplies of the new forms and initiate their immediate usage. Older forms should be discarded. Forms may be requested from the Aviation Medical Examiner Section, AC-141, FAA Aeronautical Center, P.O. Box 25082, Oklahoma City, Oklahoma 73125.

For complete instructions refer to your Guide for Aviation Medical Examiners.

Federal Air Surgeon's Medical Bulletin, November 1970

INDISCRIMINATE USE AND ISSUE OF FG-58 FLYING GOGGLES

It has come to the attention of BUMED, Code 5, that there has been a marked increase in the number of requests for the FG-58 flying goggle in each succeeding year over the last three years. In the past year alone, the requisitions for the tinted flying goggles have increased 14.3%, while the requests for the clear aviation prescription goggles have risen 77.08%. Dispensing activities are reminded of their responsibility to assure that only aircrewmembers qualified under BUMED Instruction 6810.49 of 22 July 1969, receive these types of eyewear.

FROM THE EDITOR'S DESK

With this issue of the Flight Surgeon's Newsletter an avenue of communication between flight surgeons throughout the Navy will be reopened. This communication is not envisioned nor intended to be a one way street from the Bureau to you, but a means of exchanging ideas within the entire flight surgeon community. Obviously, this first issue contains items originating, to a great extent, within the Bureau but it is hoped that this will change with the submission of items from you, the flight surgeon, in the field - it's up to you.

The FSN is intended to further the education of the flight surgeon by timely, concise, informative articles, usually of one page or less, which are of general aviation medicine interest. From time to time it is planned that articles will be printed which will provide the flight surgeon some added insight into some of the inner workings of Code 5, the Safety Center or AFIP, such as how a physical examination is processed in the Bureau, what is the Advisory Council for Aerospace Medicine, what happens to the MOR, how are specimens processed at the AFIP or what help can AFIP offer. Policy changes may be discussed in advance, however, since this is not an official publication, implementation will take place only by directives issued from the proper authorities. Aviation accidents which have pertinent aeromedical aspects will be reviewed in order to disseminate information learned from the accident to all flight surgeons. On occasion, interesting cases considered by the Special Board of Flight Surgeons will be condensed and passed along for your perusal.

As mentioned before, it is also anticipated that you, the operational flight surgeon, will find time and the motivation to also send us items of general interest in the field of aviation medicine. Please send "gems" or pitfalls, help your colleagues avoid making the same mistake. Proceedings from quarterly medical safety council meetings are solicited. Frequently your problem is not an isolated one and your solution just may help a fellow flight surgeon. If you have any queries or comments, send them along. This is your newsletter and your input can make it what you want and what will serve you best.

Please send all correspondence, articles, cartoons, crank letters, comments and suggestions to Captain H. S. Trostle, MC, USN, Code 514, Bureau of Medicine and Surgery, Navy Department, Washington, D.C. 20390.

The Flight Surgeon's Newsletter will be a quarterly publication coming out on the first day of the first month of each quarter. All material for inclusion must be in BUMED, Code 514 at least three weeks prior to the publication date.

RECENT FLIGHT SURGEON SELECTIONS FOR PROMOTION

To Captain

Best, W. C.
Blackburn, L. H.
Braswell, H. M., Jr.
Carver, M. C.

Cooper, P. D., Jr.
Dean, P. J.
Kinneman, R. E., Jr.

Robinson, D. W.
Schorn, V. G.
Trumble, T. J.

To Commander

Bendixen, R. L.
Browning, W. H.
Campbell, A. F.

Caudill, R. P., Jr.
Deane, F. R.
Stone, G. M. II

Turaids, T.
Wasson, R. D.

To Lieutenant Commander

Anderson, J. R.
Arendale, S. S.
Arnold, W. P. III
Bade, R. H.
Bailey, G. J.
Bandiera, S. J.
Blackstone, H. G.
Bressler, B. C.
Brown, R. B.
Buckendorf, W. A.
Burnett, J. R.
Burson, R. A.
Calhoun, T. R.
Carlise, J. L.
Carolan, J. A.
Carstensen, R. O.
Cassidy, J. B.
Chermel, I. L.
Cooler, H. P.
Cravey, G. M.
Danzon, D. B.
Davis, L. J.
Doekel, R. C., Jr.
Dublin, A. B.
Duffy, P. A.
Duncan, M. W.
Dunlap, W. A.
Emory, W. H.
Fiscella, K. R.
Flanigan, D. J.
Fleissig, H. M.
Fordyce, N. A., Jr.
Freeman, R. J.
Greeson, C. S.
Gundy, D. H.
Guth, D. E.

Hageseth, C. E.
Haley, J. M.
Hancock, W. E.
Hardberger, R. E. III
Harris, C. M.
Hassan, R. M.
Hayes, R. P. B.
Hayman, H. R.
Heasty, R. G., Jr.
Hedge, G. L.
Henrickson, R. R.
Hoger, N. G.
Holsten, K. E.
Houghton, J. O.
Howlett, S. A.
Hughes, G. H.
Hulon, W. C.
Isenhardt, G. E.
Jacob, H. J.
Jochims, J. L.
Johler, T. H.
Kahler, J. G.
Katz, A. E.
Keenan, T. F.
Kelly, R. E.
Kelsey, G. D.
Kemp, D. G.
Klein, R. A.
Kloehn, K. W.
Landry, P. R.
Lapes, G. A.
Lentz, W. C.
Luiken, G. A.
Maurer, J. C.
McIntyre, J. M.
Mendez, P., Jr.
Miller, G. J.

Miller, W. D.
Morrow, S. H. III
Murphy, J. P., Jr.
Ochs, M. A.
Oliviero, V. N.
Palmer, R. D.
Parvin, T. S.
Pekas, M. W.
Peterson, K. C., Jr.
Phillips, T. W.
Pinkston, J. A.
Prutsek, L. G.
Raugust, R. P.
Reilly, J. J.
Repass, R. L.
Rettig, A. C., Jr.
Ricchiuti, V. M.
Rodgers, D. E.
Roelofs, B. A.
Salsburg, S. D.
Sapala, J. C.
Schonberg, S. E.
Sells, R. D.
Siegel, D. F.
Stahly, T. L.
Stevens, L. P.
Stevens, S. L., Jr.
Swart, E. G., Jr.
Sydlowski, P. E.
Turner, T.
Vasquez, G. A.
Wells, M. V.
Wendt, C. E.
Whipple, R. L.
Wickliffe, C. W.
Williams, W. P.
Wright, P. E.

FLIGHT SURGEON'S



NEWSLETTER


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APRIL 1971

On 1 May 1971 I will leave the Bureau of Medicine and Surgery to take an extended trip. On 1 July 1971 I will return to the Bureau for a five minute retirement ceremony. The Surgeon General has selected Captain Edward A. Jones, MC, USN to relieve me as his Assistant Chief for Aerospace Medicine. He will assume this responsibility about the middle of July. Captain Robert C. McDonough, MC, USN will act in my place during the two and one-half month interim.

Captain Jones graduated from the University of Louisville School of Medicine, served as a medical officer in an LST squadron during the Normandy invasion in WW II, and was designated a Naval Flight Surgeon in 1952 (Class 64). His background is fully operational, including duty on three major staffs, a CVA, with the Marines, several air stations, Kodiak, and hospital command (Rota).

The Surgeon General is keenly aware of special problems peculiar to operational medicine. With his support and approval we have seen considerable improvement in our status and career opportunities during the past few years. I feel my work has been fruitful, and would like to stay on, but for personal reasons must go. To all who have helped me along the way during the past thirty years, thanks and good-bye.


L. P. JAHNKE
Captain, MC, USN
Assistant Chief for
Aerospace Medicine

BUNDLE BRANCH BLOCK IN AVIATION PERSONNEL

E. C. Reed and K. C. Stanton

HISTORICAL BACKGROUND

The electrocardiographic diagnosis of bundle branch block has traditionally been considered strong evidence of underlying cardiac disease and has been regarded as a disqualifying abnormality for Naval aviators. However, recent surveys and studies, including one performed at the Naval Aerospace Medical Institute, have shown that right bundle branch block (RBBB) and left bundle branch block (LBBB) are compatible with normal longevity if other risk factors are eliminated. This paper is offered as a guideline to the approach to the evaluation of the Naval aviator (or prospective Naval aviator) who demonstrates bundle branch block. This approach is currently being used by the Cardiology Branch, Naval Aerospace Medical Institute. In recent months, several aviators have been referred to the Special Board of Flight Surgeons for evaluation of bundle branch block who have been incompletely evaluated, thus necessitating referral back to a naval hospital with a resulting loss of time for both the aviator and the Special Board members. Reasonable adherence to the outline set forth below should result in the most expeditious handling of any case of bundle branch block.

CONGENITAL BUNDLE BRANCH BLOCK

The finding of RBBB in an applicant for a Naval Aviation Program is considered disqualifying until complete cardiac evaluation is performed and the applicant is found free of any underlying cardiac disease. This evaluation can be performed by any cardiologist, either military or civilian, and cardiac catheterization studies are not required. In the absence of underlying organic disease RBBB is considered to be a congenital abnormality, and the applicant can then be found physically qualified. On the other hand, congenital LBBB is a rare occurrence (1/100,000 EGG'S), and is almost always associated with some type of underlying heart disease. For this reason it is the policy of both NAMI and the Bureau of Medicine and Surgery to consider LBBB disqualifying in an applicant for a Naval Aviation Program.

ACQUIRED BUNDLE BRANCH BLOCK

The sudden appearance of bundle branch block in a person who has previously had a normal electrocardiogram must be considered evidence of underlying cardiac disease and disqualifying until extensive cardiovascular evaluation has been carried out. It has been recognized for some time that acquired right bundle branch block may be due to a small, discrete fibrotic lesion involving only the right bundle. Since the left bundle branch is much larger, it has been felt that the acquisition of a LBBB indicated extensive disease, most likely on an arteriosclerotic basis. However, recent studies have indicated that focal fibrotic lesions may also interrupt the left bundle, producing a typical LBBB pattern on the electrocardiogram, in the absence of coronary artery disease or other organic disease. During

the past two years 36 cases of acquired bundle branch block have been evaluated at NAMI. Approximately 30% have been returned to full flight status because of the lack of evidence of clinically significant disease.

Consequently, the clinical approach to the aviator who develops bundle branch block is changing, as is the administrative approach. There are several clinical and administrative steps which must be taken in the case of the aviator or NFO who develops a bundle branch block, be it RBBB or LBBB. These steps are outlined below.

I. Aviation personnel with acquired bundle branch block are presumed to have arteriosclerotic heart disease until proven otherwise. Upon discovery of the electrocardiographic abnormality the individual must be grounded and steps taken to provide further evaluation.

II. Determination of fitness for duty must first be accomplished. This requires evaluation by a cardiologist; and would normally involve a detailed history and a physical examination, exercise studies, roentgenographic studies, and any other special procedures indicated. If available locally, coronary angiography should be performed. A Medical Board should then be held stating the patient's fitness for duty. If he is found fit for duty he must then be evaluated for duty involving flying by the hospital flight surgeon or squadron/dispensary flight surgeon who performs the post-hospitalization physical. The recommended disposition at this time on the Standard Form 88 should be "recommendation for appearance before the Special Board of Flight Surgeons."

III. If coronary angiography has not already been performed in the hospital the flight surgeon performing the post-hospitalization physical examination should immediately write the Cardiology Department at Naval Hospital, Bethesda, Maryland or Naval Hospital, San Diego, California; include all pertinent information and data, and request an appointment for coronary angiography.

IV. Following coronary angiography the local flight surgeon should recommend to the Bureau of Medicine and Surgery that the aviator/NFO appear before the Special Board of Flight Surgeons where recommendation will then be made concerning his future flying status.

The above approach to the aviator with acquired bundle branch block is an important step forward in the clinical care of our highly trained professional aviation personnel, and this sequence of events should become familiar to all Naval flight surgeons.

LPA-1 TRAINING FILM

A training film on the Navy LPA-1 aircrewman life preserver has just been released with wide distribution to training and major commands. The film, KN-11093, covers the constructional features of the preserver as well as its recommended operation and application to other personal flight equipment. (AIR 5311D)

POST FLIGHT CHEST PAIN IN JET PILOTS

LCDR Talvaris Turaidis, MC, USN
Medical Officer
USS CORAL SEA

With the advent of high performance jet aircraft a pathologic respiratory condition has become common in aviators returning from flights during which they breathe 100% oxygen and have been subjected to increased forces of gravitational acceleration.

The symptoms consist of post-flight chest discomfort, coughing, and difficulty in taking a deep breath. Rarely, they may appear during flight and cause detrimental effects due to distracting or perhaps even incapacitating cough and chest pain. A post-flight chest x-ray usually reveals linear densities at the bases of the lungs (atelectasis) and elevation of the diaphragm. These lung changes, however, are completely reversible; the symptoms usually disappear within thirty minutes after landing, and are not indicative of any basic pulmonary disease.

This condition is much more common than previously suspected since pilots are often hesitant to report any symptoms, fearing discovery of a defect disqualifying for flying. During a recent survey of 38 fighter pilots flying the F-8H aircraft, 63% reported having had experienced post-flight respiratory difficulties.

Apparently, 100% oxygen and high G-forces act synergistically to produce this syndrome, since neither alone usually result in such changes. The factors causing this problem are not entirely understood, but here are some probable explanations.

During prolonged oxygen breathing, nitrogen is eliminated from the body leaving only water vapor, carbon dioxide, and oxygen to exert gas pressure in the lung. This should ordinarily cause no problem unless the free ventilation of alveoli (the minute air sacs in the lungs where gas exchange takes place) is obstructed. When an airway becomes obstructed, lung collapse (atelectasis) may develop beyond the block, not because of chemical oxygen toxicity, but due to the physical consequences of rapid absorption of gases from the closed off alveoli. It has been shown that the absorption rate of 100% oxygen under one atmosphere of pressure is 60 to 80 times greater than that of air. Breathing pure oxygen at altitude should speed up the development of atelectasis even further, assuming that the rate of collapse is proportional to the number of oxygen molecules present and that the removal of oxygen by the perfusing blood is constant. It may be inferred that the rate of lung collapse is influenced by the concentration of nitrogen in the inspired gas. Being an inert gas with no chemical affinity for the blood, nitrogen is absorbed very slowly and thus serves to prevent or retard the development of atelectasis.

The mechanism of airway obstruction formation is not clear. There may be a normal tendency for some alveoli to collapse and transient obstruction may occur by normal bronchiolar secretions. This is easily overcome during air breathing by deep inspiration or coughing since, as stated above, the presence of nitrogen in the alveolar spaces prevents their rapid collapse.

When breathing 100% oxygen, however, the rate of collapse is so rapid that it tends to overcome the forces which normally operate to restore the alveoli. Surface tension forces may play a role. In the absence of an inert gas (N₂), the negative intra-alveolar pressure associated with absorptional atelectasis may cause fluid transudation from the capillaries into the gasless crevices of the alveoli, an effect which might produce surface tension sufficiently elevated to prevent reexpansion of the lungs despite deep inspiration.

High "G" forces may be the main factor in causing airway obstruction. During positive head to foot acceleration, compression of the lower portions of the lungs occurs as a direct result from inferior displacement of these organs. Inflation of the abdominal bladder portion of the "G" suit opposes this displacement by limiting the descent of the diaphragm. As a result, basilar lung compression occurs causing airway obstruction. Another contributing factor may be chest restriction due to the aviator's survival equipment, "G" suit, and harness restraint system. Increased bronchiolar secretions due to a respiratory infection may also cause segmental lung collapse. This is another reason why aviators should not fly with the common cold. Smoking also causes pulmonary irritation and increased bronchiolar secretions (are there any other reasons to give up cigarettes?).

These post-flight respiratory symptoms experienced by jet pilots are usually resolved within thirty minutes by coughing or deep breathing. Other than this there is no specific treatment and no reason for the pilot to be grounded.

PROCESSING OF SF 88's & 89's

Code 511 has achieved the desired goal of acting upon all records within 48 hours of receipt. This Code courteously requests your help, in the field, to maintain that goal -- by submitting complete records. During the past 5 weeks, Code 511 has returned 28.2% applicant and 28.1% annual SF 88's to the field for additional information, corrections, or due to omissions.

In the interest of reducing generally regarded onerous paperwork of the operational flight surgeons and their staff, this Code requests that each flight surgeon carefully read the completed SF 88's before signing. The most common errors include; omitting near point of convergence, depth perception (uncorrected and/or letter passed), intraocular tension (tactile), and enclosure of report of hospitalization summary and/or consultation. These incomplete reports which produce 56% more paperwork considering their resubmission, can not be acted upon by BUMED, thus resulting in a delay in providing BUMED recommendations on these personnel to BUPERS, CMC, and the field. This request gains additional emphasis when it is realized that prompt processing of SF 88's is of mutual benefit and enhances the flight surgeon image. MANMED, article 15-59(8)(c) is pertinent and should be reviewed. (BUMED-511)

NOMEX/LEATHER SUMMER FLIGHT GLOVES

Occasional MOR comments from Flight Surgeons regarding the performance and use of the Navy's Nomex/leather summer flight glove indicate that some erroneous impressions of the capabilities of this glove still are prevalent in the Medical Community. The following information may help to enlighten these personnel:

The Nomex glove Type GS/FRP-1 was designed to provide hand protection to pilots and aircrewman during flight with special emphasis on fire-protection. The palm component was processed to provide a washable, pliable leather with maximum tactility consistent with durability. No surface leather finishes were permitted which previously contributed to the excessive slippery when wet property of the old all-leather Type B3A glove.

An R&D program to develop positive grip ("non skid") when wet leather substitutes or alternates to eliminate the inherent tendency of sheepskin leather to become slippery when wet, was not successful. Trade-offs in bulkiness, tactility and petroleum solvent resistance were too high. Further work has therefore been concentrated on improving the present sheepskin leather component properties. New tanning and water-repellent treatments currently being investigated show promise to improve the perspiration, water and slip resistant properties. Specification requirements are currently being established, and will be incorporated in new glove procurements as soon as possible.

In the interim, the Nomex flight glove represents the best overall protective handwear available and should be worn at all times in accordance with NATOPS Instruction 3710.7E. In emergency water immersion situations, those gloves showing excessive slipperiness can be promptly removed. (AIR-5311H)

FLIGHT DECK GOGGLES

A limited quantity of a new design of Flight Deck goggle has been sent to various CVA, CVS, and LPH for evaluation. The new goggle features a high impact plastic lens that is scratch resistant and accommodates standard eyeglass frames. Evaluation is scheduled for completion by May 1971 at which time the new goggles will be considered for replacement of both the "Sun, Wind and Dust" goggle (FSN 9D8465-161-4068) and the Industrial Safety goggle (FSN 1H4240-269-79.2). This item is compatible with the HGU-25/P cranial impact helmet and is presently intergrated for flight deck use only. The goggles are being developed for NAVAIR by ACED, NAVAIRDEVCEEN, Warminster, Pennsylvania as part of the Flight and Hangar Deck Personnel Protective Equipment Program. (AIR 5311D1)

ARMSTRONG'S AEROSPACE MEDICINE

The Williams and Wilkins Company, Baltimore, Maryland announced that a new, revised edition of Armstrong's Aerospace Medicine will be available this spring for \$45.00. It is recommended that all inquires relative to procurement of this book be directed to the publisher. (BUMED-514)

VERTEBRAL FRACTURES AND FLYING

The question of appropriate flying status in aviation personnel who have incurred a compression fracture of the vertebral column, usually a post-ejection finding, is frequently considered by Code 511. As an aid to the operational flight surgeons, the following guidelines are provided:

All aviation personnel, irrespective of the injury or illness, are found NPQ for flight participation while in a limited duty status.

Upon return to full duty, personnel with compression fractures of 1 or 2 lumbar vertebra, with no more than 50% compression, no dislocation, and no posterior segment involvement require an orthopedic evaluation. If this reveals adequate healing, satisfactory tolerance to movement as well as to long periods of sitting, the pilot may be found PQ or SG III or DIF only at this time in non-ejection seat equipped aircraft and for non-carrier flying. The orthopedic consultation with this information noted should be submitted with the completed SF 88.

If orthopedic follow-up 6 or 12 months later reveals continued good healing, satisfactory tolerance to movement and sitting, as well as adequate tolerance to the forces of ejection, catapult launches and arrestments, unrestricted flying may be recommended.

In cases of compression fracture of the cervical spine, the same principles are applied as with lumbar spine compression fractures. The additional requirement of a report of current range of motion of the cervical spine so as to have adequate "scanning" range outside the cockpits is added. Generally after about 12 months post-injury or after interbody fusion, with satisfactory boney healing, non-ejection seat and non-carrier flying may be considered, if orthopedic consultation recommends such participation. After about 18 months post-injury, unrestricted flying may be permitted if the orthopedic follow-up indicates solid fusion, good tolerance to forces, adequate range of motion including scan out of cockpit, and the case is without complication.

In cases of applicants for flight training, previous compression fracture with residual defect of the vertebra is considered disqualifying.
(BUMED-511)

AEROSPACE MEDICAL ASSOCIATION CONVENTION

Don't forget the 42nd Annual Aerospace Medical Association Meeting in Houston, April 26-29. Get your tickets early for the Naval Aviation Luncheon on Monday 26 April, this is always a highlight of the meeting.

Service dress khaki is the uniform for naval personnel attending the daily meetings. Dinner dress with white jacket will be worn to the Honors Night banquet.

FLIGHT SURGEONS ORDERS RECENTLY ISSUED

NAME	FROM	TO
LT B. C. Bressler	NAVHOSP, San Diego, Calif.	CVW-21, Miramar, Calif.
LT C. E. Hageseth	Second Marine Air Wing	NAVHOSP, Whidbey Island
LCDR W. D. Henrichs	NAF, Mildenhall, England	COMNAVACT UK (report by ltr)
		ADDU: NAF, Mildenhall
CDR J. E. Wenger	NAF, Naples, Italy	Commander Fleet Air Med.
LT R. L. Carter	VC-4, Oceana	VC-2, Oceana
LCDR H. C. Halvorson	CVW-5, Lemoore	NAVHOSP, Lemoore, Calif.
CAPT D. W. Robinson	First Marine Air Wing	NAS, Los Alamitos, Calif.
CDR F. C. Leisse	NAVTRACOM, Kenitra, Morocco	First Marine Air Wing
CDR C. G. Jeffrey	USS FORRESTAL (CVA-59)	Third Marine Air Wing
LCDR R. A. Bell	CVSG-56, Quonset Pt., R. I.	NAVHOSP, Quonset Pt., R. I.
CAPT J. R. Lukas	Marine Corps Dev. & Ed. Command	
	Quantico, Va.	
CDR R. J. Kelly	USS INDEPENDENCE (CVA-62)	NAVTRACOM, Kenitra, Morocco
CDR N. R. Raffaely	USS BON HOMME RICHARD (CVA-31)	VX-4, Point Mugu, Calif.
LCDR W. M. Doyle	NAVHOSP, San Diego (resident)	NAVHOSP, Quonset Pt., R. I.
LCDR W. F. Ural	First Marine Air Wing	COMFAIR SAN DIEGO
CAPT V. E. Senter	CO, NAVHOSP, Whidbey Island	MCAF, Santa Ana, Calif.
LT G. L. Levin	First Marine Air Wing	CNARESTRA, Omaha, Neb.
CAPT D. P. Morris	NAVAIRDEVCEN, Johnsville, Pa.	NAS, Alameda, Calif.
LCDR L. E. Williams	HC-5, Imperial Beach, Calif.	NAS, Willow Grove, Pa.
CDR J. P. Clymer	USS TICONDEROGA (CVS-14)	NAVAIRDEVCEN, Johnsville, Pa.
LT G. A. Vasquez	HA(L)-3, Vietnam	MCAS, Yuma, Arizona
LT J. A. Caras	NAVSTA, Keflavik, Iceland	US NAVHOSP, Rota, Spain
LCDR T. (n) Turaida	USS CORAL SEA (CVA-43)	CVW-7, Oceana
LCDR E. G. Swart	VA-82, Cecil Field, Fla.	NAS, Moffett Field, Calif.
LCDR R. A. Rose	CVW-6, Cecil Field, Fla.	LIGHT ATTACK WING ONE, Cecil Fld.
LT J. E. Cassidy	First Marine Air Wing	NAS, Cecil Field, Fla.
CDR W. W. Simmons	USS CONSTELLATION (CVA-64)	VAQW-13, Alameda, Calif.
LT J. P. Pressly	First Marine Air Wing	NAVAEROSPMEDINST, Pensacola, Fla.
CAPT A. P. Rush	CO, NAVHOSP, Cherry Pt., N.C.	NAS, Atlanta, Ga.
CAPT C. L. Ewing	NAVAEROMEDRSCHLAB, Pensacola	NAS, Pensacola, Fla.
LT G. A. Lapes	CVW-17, Oceana	NAVAEROMEDRSCHLAB Det, Michoud, La.
LT R. A. Burson	First Marine Air Wing	NAS, Oceana, Va.
		NAS, Memphis, Tenn.

BILLETS FOR FLIGHT SURGEON CLASS GRADUATED 25 MARCH 1971

NAME	TO
LT Robert L. Anderson, MC, USNR	NAVSTA, Keflavik
LT David R. Bakken, MC, USNR	FAW-2, Barbers Point
LT William S. Barry, MC, USNR	NAS, Cubi Point
LT Frederick C. Blades, MC, USNR	NARTU, Andrews AFB
LT Philip G. Boysen, MC, USNR	VT-6, Pensacola
LT Richard J. Bultman, MC, USNR	CVW-1, Cecil Field
LT John A. Bushong, MC, USNR	CVW-21, Miramar
LT Thomas G. Cook, MC, USNR	NAS, South Weymouth
LT Gerald V. Cupp, MC, USNR	NAS, Atlanta, Georgia
LT Quinton M. Dittmore, MC, USNR	HELTRARON-8, Ellyson Field
LT William H. Dunbar, MC, USNR	VX-5, China Lake
LT Heinz J. Elsner, MC, USNR	NAF, China Lake
LT David P. Gallagher, MC, USNR	VR-24, Rota, Spain
LT Henry T. Gilbert, MC, USNR	NAS, Glynn, Georgia
LT Danny G. Groves, MC, USNR	NAS, Dallas, Texas
LT Steven J. Hazen, MC, USN	HA(L)-3, Vietnam
LT John F. Healy, MC, USNR	NAVHOSP, Cherry Point
LT Floyd M. Hindelang, MC, USNR	VT-7, Meridian
LT Richard M. Jacoby, MC, USNR	CVW-14, Miramar
LT Dan L. Jensen, MC, USNR	NAS, Willow Grove
LT Lawrence L. Kay, MC, USNR	NAS, Cecil Field
LCDR Charles D. Lee, MC, USNR	USS CORAL SEA
LT Edward H. Lesesne, MC, USN	NARTU, Alameda

BILLETS FOR FLIGHT SURGEON CLASS GRADUATED 25 MARCH 1971

NAME

LT James A. Martin, MC, USNR
 LT Donald E. Mickal, MC, USN
 LT Ernest H. Mitchell, MC, USNR
 LT Richard L. Moors, MC, USN
 LT Charles F. Morris, MC, USNR
 LT Lawrence R. Morris, MC, USN
 LT Hugh A. Nutt, MC, USNR
 LCDR Lawrence R. Penner, MC, USNR
 LT Michael D. Phillips, MC, USNR
 LT David L. Rayl, MC, USNR
 LT Jeffrey C. Rhode, MC, USNR
 LT Stephen J. Rodgers, MC, USN
 LT Henry A. Sanders, III, MC, USNR
 LT Jesse F. Sanderson, MC, USNR
 LT Ronald E. Smith, MC, USNR
 LT Richard G. Sugden, MC, USN
 LT Arthur F. Sullwold, Jr., MC, USNR
 LT William R. Swan, MC, USNR
 LT Ray M. Thorpe, MC, USNR
 LT Clarence F. Ward, MC, USNR
 LT John R. Warren, MC, USNR
 LT Harold H. Weiler, MC, USN
 LT Robert M. Williams, MC, USNR

TO

VW-4, Jacksonville, Fla.
 NAF, NAVALRDEVCEN, Johnsville
 MAG-26, New River
 NAS, North Island
 COMFAIRMOFFETT
 VT-29, Pensacola
 VT-24, Chase Field
 NAS, Barbers Point
 CVW-9, Lemoore
 VC-5, ~~Naha~~
 NAS, Agana
 VAL-4, Binh Thuy
 CVSG-54, Quonset Point
 NAS, Alameda
 COMFAIRMOFFETT
 NAVALRTESTCEN, Patuxent River
 CVW-8, Cecil Field
 VA-42, Oceana
 VQ-1, Agana
 CVW-2, Miramar
 CVW-17, Oceana
 CVW-6, Cecil Field
 VA-45, Cecil Field

FROM THE EDITOR'S DESK

The first issue of the Flight Surgeon's Newsletter appeared to have gotten to its intended readers without too many problems. Problems in distribution have been resolved to a great extent by Captain Andrew Horn who will coordinate all mailings to Coast Guard Flight Surgeons and Captain Richard Jones, USN who will do the same for all week-end warrior Flight Surgeons. We will still coordinate all active duty Flight Surgeon mailings through BUMED Code 514. Any requests for address changes should be addressed to the appropriate channel as outlined above.

The response to the first issue was encouraging as is evidenced by the increase in size of this edition. Some articles have come in from you the readers. The article on Bundle Branch Block by Kev Stanton and Ernie Reed is the first of a recurring feature on pertinent subject material abstracted from current Special Board of Flight Surgeons. We are looking forward to more contributions from the residents in Aviation Medicine. The article by Tal Turaidis on Post Flight Chest Pain in Jet Pilots is timely, well written and worthy of your attention. We hope more of your Flight Surgeons in operational billets contribute articles or items of interest. This is your Flight Surgeon's Newsletter and we welcome your input. Send all material to your editor.

Captain H. S. Trostle, MC, USN
 Code 514
 Bureau of Medicine and Surgery
 Navy Department
 Washington, D. C. 20390

ELEVATED BLOOD PRESSURE AND APPROPRIATE RECOMMENDATIONS

Not infrequently SF 88's are received by Code 511 with blood pressure readings recorded above acceptable limits. As noted under MANMED, article 15-62(7)(b), blood pressure persistently above certain limits is disqualifying. To aid flight surgeons in the field when evaluating aircrewmembers, it is appropo to provide general guidelines to be used in determination of the physical qualification for flying in these cases. It should be emphasized that each case is considered individually and appropriate Bureau action is taken on this basis.

When blood pressure is found to be persistently elevated above the prescribed limits for age, the submission of a report of 3 consecutive days, AM and PM, prone and standing, blood pressure readings will suffice, provided that these readings are within limits. When the 3 day evaluation reveals persistent elevated findings, an internal medicine consultation should be obtained and forwarded to BUMED with the completed SF 88.

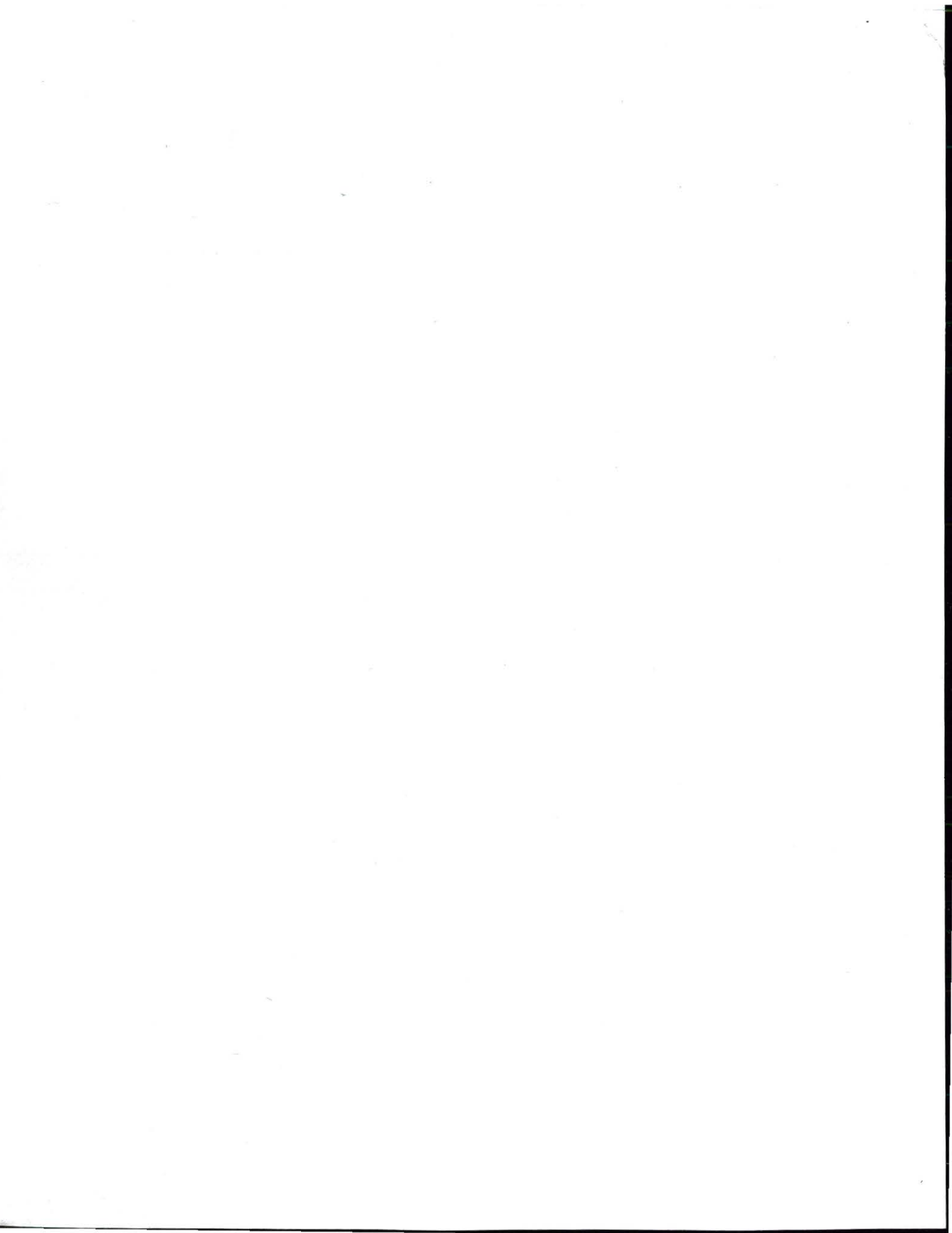
When the individual is asymptomatic, the internal medicine work-up is essentially negative, leading to a diagnosis of labile or benign hypertension, requiring no medication, a recommendation can be made that he is PQ and AA DIACA SG I or DIF (for NFO's). A follow-up internal medicine consultation should be obtained and the report included with the SF 88 at the time of the next annual flight physical examination.

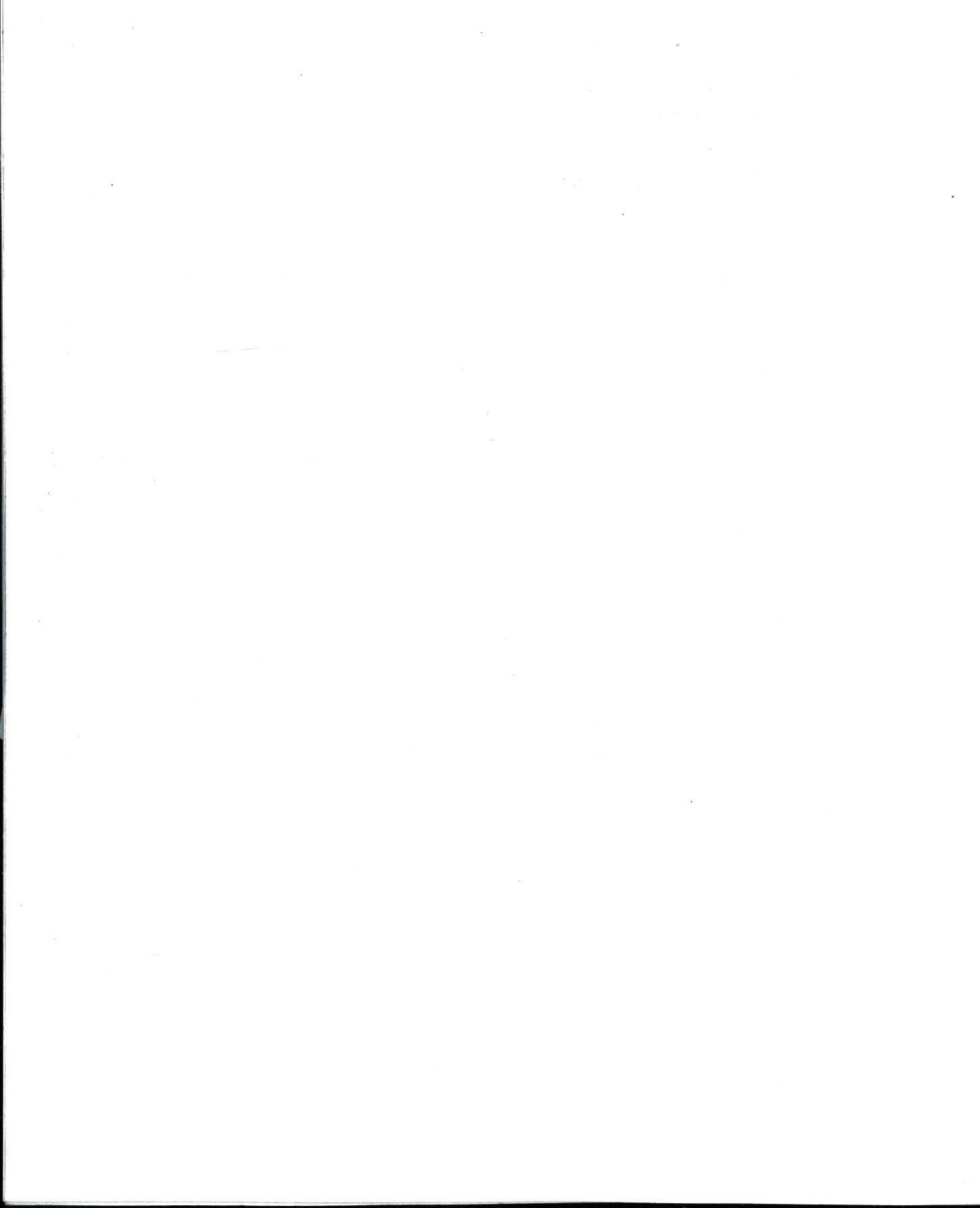
If the individual's uncomplicated hypertension, as evidenced by an internal medicine work-up, requires medication consisting of one of the thiazides only for control, he can be found PQ and AA DIACA SG III ONLY, at this time. He should be re-evaluated in 6 months and that report be forwarded to BUMED.

If after 6-12 months, his blood pressure is stable and remains well controlled by the thiazide regimen, he may be found PQ and AA DIACA SG III permanently. When the thiazide is no longer required for control, return to unrestricted SG I can be recommended.

When an aviator or NFO requires reserpine, aldomet, ataractic, or sedative type drugs for control, he CANNOT be found PQ DIACA or DIF (NFO). If otherwise qualified, NIACA can be recommended.

In summary, aviation personnel with elevated blood pressure are considered on an individual basis. Benign, labile hypertension without complication or evidence of organic cardiovascular or renal disease upon adequate work-up are unrestricted. Similar cases but requiring thiazides for control may be recommended for SG III for 6 months and re-evaluated. Hypertension requiring reserpine, aldomet, ataractic or sedative type drugs is disqualifying for DIACA or DIF NFO, though NIACA may be permitted. Permanent change to any Service Group requires Advisory Council action and is undertaken when periodic re-evaluation reveals persistence of the hypertension or of the use of thiazide-type medication. (BUMED-511)







NEWS

The purpose of this publication is to provide communication within the Naval Aviation Medicine community. Material published is for the information of Navy Flight Surgeons only and does not necessarily imply any official endorsement by the Navy.

OCTOBER 1971

My Fellow Flight Surgeons,

I have now officially relieved Captain Jahnke as Assistant Chief for Aerospace Medicine in the Bureau of Medicine and Surgery. In the short time that I have been here I have learned many things, the foremost of which is that Navy Aerospace Medicine is facing a demanding and challenging future. New concepts are constantly being presented for consideration and adoption. New and better methods of accomplishing old tasks are being suggested and introduced. An excellent example of this is the establishment of the Naval Regional Medical Center in the Tidewater Area at Norfolk.

In the months to come I intend to visit many of you in your home stations or hospitals. I am anxious to hear your ideas and to learn your feelings concerning not only naval areas but personal ones as well. In the meantime, I would like to urge all of you, junior and senior, to write to me when you have something to communicate. Only in this way can Aerospace Medicine continue as a dynamic integral segment of today's modern naval medical team. Also, when you are in the Washington area, please visit us in the Bureau. I am looking forward to making new acquaintances as well as renewing old ones.

Finally, let me say that I am very happy to be here, and I am anticipating a mutually rewarding relationship with each one of you.

Sincerely,

E. A. JONES

Captain, MC, USN

Assistant Chief for

Aerospace Medicine

ABDOMINAL PAIN AND DISTENSION. WHILE FLYING FOLLOWING
SUBTOTAL SMALL BOWEL RESECTION

CDR W. R. Crawford, MC, USN and LT G. D. Smith, MSC, USNR
Aero Medical Branch Service Test Division
Naval Air Test Center

A 26 year old Naval aviator, P.B., suffered blunt abdominal trauma as a result of a head-on automobile collision. He was saved from apparent injury, and from being thrown forward, by his seat belt. The patient went into deep shock about 45 minutes after the mishap and emergency surgery was performed at a nearby military hospital.

At laparotomy an avulsion of the midportion of the mesentery of the small intestine was noted, extending from an area 1 1/2 to 2 feet distal to the ligament of Trietz to an area 2 to 2 1/2 feet proximal to the ileocecal valve. Ninety-seven inches of small bowel were resected and a closed anastomosis was performed, leaving approximately 2 feet of proximal jejunum and 2 1/2 feet of distal ileum.

The postoperative course was uneventful. The anticipated diarrhea abated after several weeks, and he did well thereafter. A small bowel series, done on a routine basis three months later, showed a transit time of 30 minutes. The duodenum and the remaining several feet of jejunum and ileum appeared normal.

The patient continued to do well and was returned to full duty including flight status. Shortly afterwards he experienced moderately severe crampy abdominal pain while flying at approximately 4,000 feet cabin altitude. The pains disappeared after landing, but diarrhea, consisting of three to four loose, watery stools daily, ensued. This was poorly controlled with Probanthine and Lomotil, however the symptoms gradually subsided over two week's time.

Several weeks later, while in flight to Bermuda, P.B. again experienced severe abdominal crampy pain at about 5,000 feet cabin altitude. Diarrhea continued and was unresponsive to medicines. He was hospitalized in Bermuda for control of diarrhea, and subsequently was transferred to the Navy Hospital, Patuxent River, Maryland for evaluation.

At Patuxent River he was placed on a normal diet and taken off all medicines. He rapidly became asymptomatic with single, daily well-formed bowel movements. After one week he was allowed to subsist out of the hospital. Stool samples were collected three times weekly for one month and were found to be soft but not watery and had normal fat content. The disability was thought to be a complication of the bowel resection exacerbated by hypobaric conditions. The Aero Medical Branch at the Naval Air Test Center was asked for assistance in reaching a decision whether the patient should continue in aviation.

In order to determine the extent of intestinal distension caused by altitude exposure, and to relate abdominal discomfort with specific altitudes, he was exposed to high altitude conditions in a low pressure chamber under the direction of medical monitors.

The patient was placed in a supine position inside a Guardite, Model 9A2, low pressure chamber used for test and training purposes by the Aero Medical Branch. A cloth tape measure was secured around the pilot's waist to measure changes in abdominal dimensions with altitude. X-rays of the patient's abdomen were taken with a Picker portable x-ray unit during chamber ascent and descent. The pressure in the chamber was reduced at a rate of 500 feet per minute until a terminal altitude of 7,000 feet was reached. Waist measurements, x-rays, and verbal comments by the pilot concerning any abdominal disturbances were recorded during the ascent, at 1,000, 2,000, 3,000, 4,000, 5,000, and 7,000 feet, and during the descent at 4,000 and 3,000 feet and upon reaching sea level again. Total elapsed time for the exposure to low pressure was 53 minutes.

A sensation of increased intestinal motility was reported by P.B. at 1,000 feet and confirmed by inside medical monitors. Sharp transient pains were noted as low as 2,000 feet of altitude. At 6,500 feet the subject reported a moderate "tightness" and general discomfort in his entire abdomen. At the terminal altitude of 7,000 feet he reported abdominal tightness with associated pain located in a rather discrete two inch band around his abdomen at waist level. Waist measurement showed an increase in girth of 2 in. from sea level to 7,000 feet. During the descent the tightness subsided. Abdominal measurements decreased as the altitude was decreased, and were normal upon reaching sea level.

At no time during the 53 minute evaluation did P.B. pass flatus. Auscultation of the abdomen revealed loud bowel sounds coincident with the transient, moderately severe pain reported by P.B. No diarrhea resulted from the exposure.

The x-rays revealed distension but lack of apparent movement of the intestinal gas on serial films taken during the procedure. The x-rays did not contribute to a formulation of the problem. In fact, resolution of this pilot's flight status remained to the judgment of the several cognizant flight surgeons.

It was recommended, on the basis of the history and the low pressure chamber demonstration, that the pilot was no longer physically suited for flying responsibilities as a result of the bowel resection. The pilot concurred in the recommendation and requested a change of designator.

Although this case is not without precedent, it represented a unique combination of resources to document the effects of altitude flying on a pilot with significantly reduced bowel length. It is suggested that any aircrew personnel who have had bowel resections be subjected to altitude stress in a low pressure chamber prior to being returned to full duty.

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Congratulations to the following Flight Surgeons who have recently completed the residency in Aerospace Medicine and have been certified as specialists by the American Board of Preventive Medicine in Aviation Medicine:

LCDR Charles H. Bercier, JR., MC, USN
LCDR John A. Calcagni, MC, USN
CDR Larry R. Fout, MC, USN

LCDR Daniel B. Lestage, MC, USN
CDR George M. Stone, II, MC, USN

CAPTAIN JAHNKE RETIRES

A retirement ceremony was held in the Surgeon General's office on 30 June 1971 for Captain L. P. Jahnke, MC, USN, the past Director of the Aerospace Medicine Operations Division. At the ceremony Captain Jahnke was presented the Legion of Merit by Vice Admiral George M. Davis, MC, USN, Surgeon General, acting for the President. The following citation accompanied the award:

For exceptionally meritorious service from March 1967 through June 1971 as Director, Aerospace Medicine Operations Division, and subsequently Assistant Chief for Aerospace Medicine, Bureau of Medicine and Surgery, Navy Department, Washington, D. C. During his four-year tenure in the Bureau of Medicine and Surgery, Captain Jahnke developed programs which improved utilization and enhanced retention of flight surgeons in the Navy. Among his innovations were the establishment of flight surgeon billets in our larger naval hospitals to provide advisors and consultants in the care and disposition of aviation personnel; the establishment of a nucleus of highly trained flight surgeons in clinical residencies; and the development of programs whereby operationally experienced flight surgeons can obtain clinical refresher training to enhance their value to operational and clinical medicine. These programs have been directly responsible for the retention of qualified and motivated flight surgeons and have upgraded the degree of medical care available to aviation personnel and their dependents. To improve the lines of communication between the Bureau of Medicine and Surgery and the operating forces, Captain Jahnke reestablished the Flight Surgeon's Newsletter, a professional publication designed to provide for an interchange of information within the naval aerospace medical community. Through steadfastness in purpose and integrity of action, Captain Jahnke upheld the highest traditions of the Medical Corps and the United States Naval Service.

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The following residents were selected for DIFOT at the first year level.

<u>NAME</u>	<u>HOSPITAL</u>	<u>SPECIALTY</u>
LCDR John J. Bouvier, MC, USN	San Diego	Internal Medicine
LCDR William M. Houk, MC, USN	NROTCU, University of Rochester	Nuclear Science
LCDR David A. John, MC, USNR	Bethesda	Anesthesiology
LCDR George A. Luiken, MC, USNR	San Diego	Internal Medicine
LCDR Gary L. Pease, MC, USN	San Diego	Otolaryngology
LCDR Rex L. Repass, MC, USNR	Oakland	Ophthalmology
LCDR Paul E. Sydlowski, MC, USNR	Bethesda	Ophthalmology
LCDR George G. Telesh, MC, USNR	Philadelphia	Orthopedic Surgery
LT Delbert H. Hahn, MC, USNR	Oakland	Radiology
LT Gordon L. Levin, MC, USNR	Oakland	Orthopedic Surgery

PHYSICAL EXAMINATIONS

"Always read the fine print before you sign" is a valuable rule which saves people in all walks of life many problems. Flight Surgeons should apply this same axiom to everything they sign; you wouldn't sign a prescription without first reading it. Use the same thoroughness and caution before affixing your signature to flight physical examination forms.

Recent correspondence from the Chief of Naval Training has expressed grave concern for the high percentage of flight candidates who are physically disqualified on their entrance flight physical at Pensacola and its resulting cost. The cost of sending a candidate to Pensacola, and then returning him home, two PCS moves, is an extremely critical factor at this time of belt tightening. PCS funds are quite short throughout the Navy. This shortage may result in some measures which could affect all of us, such as lengthening of tours or even a complete freeze on all PCS moves. From 7-10% of all flight candidates are found physically disqualified at NAMI.

What can the Flight Surgeon do to reduce this percentage of error? Many factors come to mind which contribute to this high disqualification rate, but the one which is paramount and most obvious is the quality of the flight physical examination. Physical examinations reviewed in BUMED have shown a trend toward an increase in the number of physicals returned due to errors, omissions, need for additional information or lack of legibility. This all adds up to sloppiness any way you cut it. All Flight Surgeons are urged to review the Manual of the Medical Department for up-to-date requirements. The provisions of chapter 15-73-2 state that the Standard Form 88 on all candidates will be typewritten. This will be enforced, no exceptions and no pre-typed forms will be accepted. All positive checked items on SF 89/93 must be clarified or elaborated on under item 40 (BUMED 15-60-9). A stamped reply that all positive checked items have been investigated is unacceptable and will be returned; this stamped reply does not help anyone evaluating this physical in the future.

Great care must be taken in the eye examination. A cycloplegic refraction must be accomplished on all candidates. Do not record the candidate's prescription or the findings of a previous cycloplegic to fill this requirement; do a refraction. Only too frequently, it is noted that identical refractive findings are recorded on successive years only to obtain grossly different disqualifying findings when the candidate is refracted in Pensacola. It should be noted that all candidates who have not had a cycloplegic refraction within 12 months of entering flight training are refracted at Pensacola.

Although physical examinations seem like a boring non-productive part of your task as a Flight Surgeon, it is a very important vital task. It is a specialized task for which you are specially trained and designated. Your signature on the P.E. is your certification that you examined the candidate and that the findings are as recorded. If you are not certain or satisfied with some findings, re-examine or get a consultation but do not sign until you are certain; it's your reputation, it's your signature. All senior medical officers are urged to review all P.E. for accuracy, completeness and in some cases interpretation of the findings. They should sign the 88 in the designated space prior to submission.

If in doubt about a candidate's qualification, elaborate and submit all the findings for a BUMED decision; don't qualify the candidate with the idea that Pensacola will make the decision. Don't qualify any candidate until you are 100% certain that he is qualified.

We know other factors such as candidates' change of motivation, administrative pressure, and the pressure to see other patients all contribute to this difficult problem. Do your part. When you put your name on the line, be certain you know what you are signing.

(BUMED-514)

N T P I

BUMED Instruction 6470.10 of 19 July 1971 concerning initial management of irradiated or radioactively contaminated personnel is highly recommended reading for all Flight Surgeons. You will all be part of an NTPI either at your base or aboard the carrier. This instruction clearly demarcates the medical department's area of responsibility and all personnel should be familiar with it. This instruction with the references listed in section J should be readily available in the case of any nuclear accident.

BUMED Code 74 will answer any questions relative to the implementation of this instruction.

(BUMED-514)

NAVAL AVIATOR/FLIGHT SURGEON COMMENCES OPERATIONAL TRAINING

Lieutenant Commander William R. Davis, MC, USN, became the fifteenth dually designated Navy Flight Surgeon on active duty when he was graduated from flight training as a naval aviator on 15 June 1971. Bill has been assigned to full-time training as a replacement pilot in VF-101 at the Naval Air Station, Oceana and upon completion will join VF-103 for a tour of operational duty with Air Wing Three stationed at Oceana and aboard the USS SARATOGA (CVA-60). During this assignment Dr. Davis will fly as a line pilot and work with the two regularly assigned air wing Flight Surgeons on aviation medicine matters. In his collateral duties he will put to use his experience and training to work as the aeromedical safety assistant to the squadron and airwing commanders with the aim of identifying aeromedical and human error hazards in fighter aviation operations. This is particularly significant today as the overall navy accident rate has been coming down due to a reduction in materiel and maintenance failure accidents, but with no significant reduction occurring in accidents due to human errors.

(AIRLANT STAFF MEDICAL OFFICER)

MR. CHESTER R. H. MCCARL RETIRES

On 30 September 1971, Mr. Chester McCarl, Supervisory Lay Medical Reviewer of the Physical Qualifications Branch (Code 511) retired. Known to hundreds of Naval Flight Surgeons as "Mr. Mac", Mr. McCarl completed thirty-two consecutive years of faithful and loyal service to Aviation Medicine in this Branch, and a total of 37 years government service. His long tenure in the Code provided him with a wealth of experience, as well as complete and accurate background information in helping to solve problem cases, and he served as "the strong right arm" of the Medical Officer of the Branch for years. Because of his truly exemplary and outstanding performance over these many years, Mr. McCarl was recommended for the Superior Civilian Service Award, which is the highest award granted to civilian personnel by the Surgeon General.

"Mr. Mac's" tactful and helpful advice, kind smile, and sincere devotion to Aviation, will be greatly missed by all who have worked with him. We wish him the very best during his well-deserved retirement.

THE INNOCENT MURMUR

Commander Kevin C. Stanton, MC, USN
Naval Aerospace Medical Institute
Naval Aerospace Medical Center
Pensacola, Florida

Finding a short, soft, systolic murmur in a healthy young applicant for flight training can generate a great deal of concern for both the examining physician and the applicant. The flight surgeon must make a decision whether to refer the applicant for further study, and perhaps look foolish in the eyes of the consultant; or to call the murmur innocent and take the chance of missing an organic defect. The applicant is at a true crossroads: if he is denied admission to the Navy because of the murmur, a diagnosis of organic heart disease will follow him the rest of his life. He will be denied or rated for life insurance. On the other hand, if an organic lesion exists and is not identified, he may be denied precautions against subacute bacterial endocarditis with potentially disastrous results. The following is offered to aid the flight surgeon in making this sometimes difficult decision.

Innocent or "physiologic" murmurs can be heard in up to 50% of adolescent males. Obviously a fair percentage of these will retain their murmurs into the early twenties - the group we are concerned with. In the absence of obvious chest deformity the following features of the innocent murmur should be specifically evaluated.

1. Systolic in timing.
2. Short duration - not pansystolic or late systolic.
3. Soft in intensity - grade 2/6 or less.
4. Heard over entire precordium, but does not radiate to the axilla or back. Soft radiation into the carotids is common in the so-called hyperdynamic murmurs (rapid heart rate, systolic BP elevation, sweaty palms, etc.).
5. Absence of a diastolic murmur - detection of soft diastolic murmurs requires a good stethoscope. Most of the standard issue "cheapie" stethoscopes are woefully inadequate in this regard.
6. Normal respiratory movement of the second sound - i.e. closes with expiration.
7. May change markedly with position - but absence of positional change is not against the murmur being innocent.
8. No other evidence of organic heart disease - negative history, normal ECG, and normal chest x-ray.

Any deviations of the murmur from the above criteria should provoke the examining flight surgeon into asking for a consultation with perfect justification. A murmur that meets all of the above criteria can be considered "innocent" with equal justification and a clear conscience.

A WHITE PILL

LT William S. Barry, MC, USNR

Two aircraft overhead with pilots and co-pilots incapacitated by abdominal pain. An unconscious driver at the wheel of a tractor crashes into a parked aircraft. Aircontrollers in the tower not responding to the radio just looking out watching the sunset.

Sabotage? Mass insanity? Freakout station #1? No! The above hypothetical situations are all possible dangers of A WHITE PILL. Most aviation personnel are aware that taking medications while in a flight status can be dangerous. Yet certain medications are taken without a second thought - salt tablets, C-P tablets, aspirins. While these medications in themselves can cause problems, it's their acceptance without question that presents a hazard.

At a naval air station in Vietnam, the practice of dispensing C-P and salt tablets at the messhall provided an easy access to these necessary drugs used in that area. As formal dispensing machines were not available, paper cups were used. This appeared to be an efficient method of dispensing the tablets to all the personnel. The problem was that the pills in the salt cup were not salty, they were bitter. This discrepancy could be explained away by the unwary as "a different brand", "military issue", or "nothing tastes right today". In this case the salt cup was filled from a large brown bottle of white pills kept in the office. The salt pills were always poured out from this salt tablet bottle - but this wasn't the bottle - it was aspirin for the local headaches. It could just as well have been coumarin, disulfiram, a diuretic, an antibiotic, a barbiturate, or a carbonic anhydrase inhibitor. These white tablets could produce allergic reactions or incapacitating side effects to unsuspecting users.

The taking of the wrong medication from a medicine cabinet has its accident equivalent with the taking of the white pill in the paper cup. Medication is not candy and all medications should be checked upon dispensing and protected by the users. Only precautionary measures can prevent accidents, injuries, and death.

The dispensing of all drugs whether they are aspirin, C-P or salt tablets are the responsibility of the medical department. Active supervision by medical department personnel of all programs of drug dispensing is mandatory.

OPNAVINST 3710.7F

In view of some recent changes noted in OPNAVINST 3710.7F, it appears appropriate to make the following suggestion: When aircrew personnel check in or have their annual physicals, the flight surgeon should review the individual's NAVMED 6150/2 to verify currency of physiology training.

Changes of note to the subject instruction are:

(1) Emergency Egress Systems. Ejection seat training at a physiology training activity shall be accomplished initially prior to flight in an aircraft equipped with an ejection seat and subsequently, prior to flight in an aircraft with a different type ejection seat system from the one they are currently flying in.

(2) Visual Problems. Visual problems includes night vision, flash blindness, and spatial disorientation training. Flash blindness training is now required of all crewmen. Crewmen is defined on page 1-3 of subject OPNAVINST.

(BUMED-512)

FLIGHT SURGEONS ORDERS RECENTLY ISSUED

NAME	FROM	TO
LCDR J. O. Houghton	First Marine Air Wing	NAS, Alameda
CAPT H. W. Hill	NAS, Moffett Field	MCAS (H) New River, N.C.
CDR D. P. Hoback	USS ROOSEVELT (CVA-42)	NAS, Point Mugu
CDR C. G. Jeffrey, Jr.	USS FORRESTAL (CVA-59)	NAS, Meridian, Miss.
LT L. A. Olson	FAW-3, Brunswick, Me.	VP-10, Brunswick, Me.
LT L. A. Kreider	FAW-3, Brunswick, Me.	VP-44, Brunswick, Me.
LT H. D. Bresnahan	FAW-3, Brunswick, Me.	VP-11, Brunswick, Me.
LT R. D. Blose	FAW-3, Brunswick, Me.	VP-23, Brunswick, Me.
LT G. L. Levin	NAVHOSP, Oakland - Duty	NAVHOSP, Oakland-DIFOT FS (ADDU)
LT D. H. Hahn	NAVHOSP, Oakland - Duty	NAVHOSP, Oakland-DIFOT FS (ADDU)
LT R. L. Repass	NAVHOSP, Oakland - Duty	NAVHOSP, Oakland-DIFOT FS (ADDU)
LCDR G. G. Telesh	NAVHOSP, Philadelphia - Duty	NAVHOSP, Philadelphia - DIFOT FS (ADDU)
LCDR G. L. Pease	NAVHOSP, San Diego - Duty	NAVHOSP, San Diego-DIFOT FS (ADDU)
LCDR G. A. Luiken	NAVHOSP, San Diego - Duty	NAVHOSP, San Diego-DIFOT FS (ADDU)
LCDR J. J. Bouvier	NAVHOSP, San Diego - Duty	NAVHOSP, San Diego-DIFOT FS (ADDU)
LCDR P. E. Sydlowski	NAVHOSP, NATNAVMEDCEN, Bethesda Duty	NAVHOSP, NATNAVMEDCEN, Bethesda DIFOT FS (ADDU)
LCDR D. A. John	NAVHOSP, NATNAVMEDCEN, Bethesda Duty	NAVHOSP, NATNAVMEDCEN, Bethesda DIFOT, FS (ADDU)
LCDR G. L. Koomos	NAVHOSP, Portsmouth, Va.-Duty	NAVHOSP, Portsmouth, Va.-DIFOT FS (ADDU)
LCDR R. P. B. Hayes	VAP-61, Agana, Guam	VQ-3, Agana, Guam
LCDR L. J. Van Keulen	NAVHOSP, San Diego - Duty	3rd Marine Air Wing, El Toro
CDR D. R. Stoop	NAVHOSP, Pensacola - Duty	NAVAEROSPMEDINST, Pensacola, Fla.
LCDR W. M. Houk	NROTCU, Univ. of Rochester-Duty	NROTCU, Univ. of Rochester-DIFOT FS (ADDU)
CDR W. O. Buck	Inactive	3rd Marine Air Wing, El Toro, Calif.
LT J. W. Maida	FAW-11, Jacksonville, Fla.	VP-16, Jacksonville, Fla.
LT F. A. Brindle	FAW-11, Jacksonville, Fla.	VP-45, Jacksonville, Fla.
LT B. F. King	FAW-11, Jacksonville, Fla.	VP-5, Jacksonville, Fla.
LT D. R. Bakken	FAW-2, Barbers Pt.	VP-17, Barbers Pt.
LT F. W. Miller	FAW-2, Barbers Pt.	VP-6, Barbers Pt.
LT E. S. Golladay	FAW-2, Barbers Pt.	VP-4, Barbers Pt.
LT B. S. Myers	FAW-2, Barbers Pt.	VP-1, Barbers Pt.
LT J. J. Williams	COMFAIRMOFFETT, Moffett Field	VP-9, Moffett Field
LT C. P. Daspit	COMFAIRMOFFETT, Moffett Field	VP-19, Moffett Field
LT E. H. Johansson	COMFAIRMOFFETT, Moffett Field	VP-40, Moffett Field
LT C. F. Morris	COMFAIRMOFFETT, Moffett Field	VP-47, Moffett Field
LT W. H. Barnaby	COMFAIRMOFFETT, Moffett Field	VP-48, Moffett Field
LT R. E. Smith	COMFAIRMOFFETT, Moffett Field	VP-50, Moffett Field
LCDR J. R. Burnett	Staff, Deputy Commander, Patuxent River, FAW-5	VP-49, Patuxent River
LT H. L. Bush	Staff, Deputy Commander, Patuxent River, FAW-5	VP-24, Patuxent River

VINYL EAR PAD SURVEY

Investigations of the condition of vinyl ear pads in protective helmets have been conducted at several activities at the request of the Naval Air Systems Command.

The results of an analysis and evaluation of the reports indicate that a degradation of the vinyl ear pad occurs. However, there does not appear to be a temporal trend, on the basis of either time in use or time installed, which could be used as a guide to establishing a calendar replacement schedule. Past experience and conjecture indicate that a large portion of the degradation process is caused by a mechanical/chemical interaction of the vinyl with particular types of perspiration and/or local body excretions.

It is suggested squadron Flight Surgeons compare new vinyl ear pads to those in use by squadron personnel and take action to replace the outer ear pad when it reaches the condition where the protective function is not being fulfilled.

(BUMED-522)

